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Self-assembly of the complexes of bipodal thiophosphorylated thioureas

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Abstract

N-Thiophosphorylated thioureas, of general formula [(i-PrO)2 P(S)NHC(S)]2Z (Z = α,ω-diamino(oxy)alkyl or 1,10-diaza-18-crown-6), in the form of potassium salts, react with a number of soft ions (Cd2+, Zn2+, Co2+, Ni2+, Pd2+) to form novel dimeric complexes. The cadmium (Z = HN(CH2)2NH), palladium (Z = HN(CH2)2O(CH2)2NH), and cobalt (Z = 1,10-diaza-18-crown-6) complexes were analyzed by x-ray crystallography. In the former complex, crown cavities remain free. This fact will allow us to obtain "guest-host" complexes with alkali metal cations.

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Keywords

Bridging ligands, Chelates, Crown compounds, Macrocycles, N-thiophosphorylthioureas, Self-assembly